DOCUMENT RESUME

ED 262 205 CE 042 602

TITLE	Present Information with Films. Second Edition. Module C-25 of Category C--Instructional Execution. Professional Teacher Education Module Series.
INSTITUTION	Ohio State Univ., Columbus. National Center for Research in Vocational Education.
SPONS AGENCY	Department of Education, Washington, DC.
REPORT NO	ISBN-0-89606-202-3
PUB DATE	86
NOTE	40p.; For other modules, see ED 259 134, ED 259 205, CE 042 280, and CE 042 598.
AVAILABLE FROM	American Association for Vocational Instructional Materials, 120 Driftmier Engineering Center, University of Georgia, Athens, GA 30602.
PUB TYPE	Guides - Classroom Use - Materials (For Learner) (051)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Audiovisual Aids; *Classroom Techniques; *Competency Based Teacher Education; Individualized Instruction; *Instructional Films; Learning Activities; Learning Modules; *Media Selection; Teaching Methods; Vocational Education; *Vocational Education Teachers

ABSTRACT

This module, one in a series of performance-based teacher education learning packages, focuses on a specific skill that vocational educators need to be successful in the area of instructional execution. The purpose of the module is to help instructors become competent in operating film equipment and in using films to present information in the classroom or laboratory as well as to help them gain skill in determining when a film is the best audiovisual device for use for a particular lesson. Introductory material provides terminal and enabling objectives, prerequisites, a list of resources, and general information. The main portion of the module includes two learning experiences based on the enabling objectives. Each learning experience presents activities with information sheets, samples, worksheets, and checklists. Optional activities are provided. Completion of these two learning experiences should lead to achievement of the terminal objective through the third and final learning experience that provides for a teacher performance assessment by a resource person. An assessment form is included. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

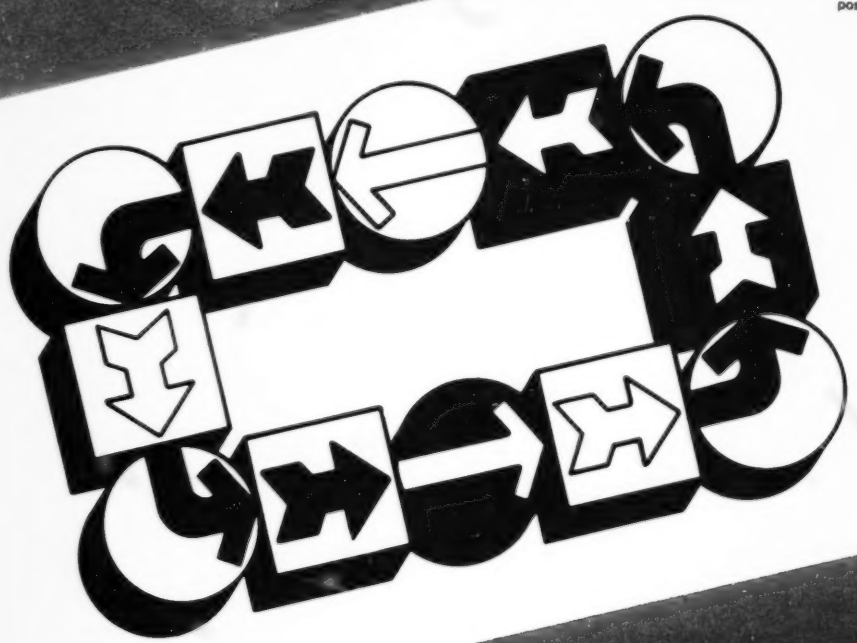
ED262205

MODULE
C-25

Present Information with Films

Second Edition

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.



Module C-25 of Category C—Instructional Execution
PROFESSIONAL TEACHER EDUCATION MODULE SERIES

AMERICAN ASSOCIATION
FOR VOCATIONAL
INSTRUCTIONAL MATERIALS
The University of Georgia
120 Driftmier Engineering Center / Athens GA 30602

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY
1960 KENNY ROAD · COLUMBUS, OHIO 43210

FOREWORD

This module is one of a series of 127 performance-based teacher education (PBTE) learning packages focusing upon specific professional competencies of vocational teachers. The competencies upon which these modules are based were identified and verified through research as being important to successful vocational teaching at both the secondary and postsecondary levels of instruction. The modules are suitable for the preparation of teachers and other occupational trainers in all occupational areas.

Each module provides learning experiences that integrate theory and application; each culminates with criterion-referenced assessment of the teacher's (instructor's, trainer's) performance of the specified competency. The materials are designed for use by teachers-in-training working individually or in groups under the direction and with the assistance of teacher educators or others acting as resource persons. Resource persons should be skilled in the teacher competencies being developed and should be thoroughly oriented to PBTE concepts and procedures before using these materials.

The design of the materials provides considerable flexibility for planning and conducting performance-based training programs for preservice and inservice teachers, as well as business-industry-labor trainers, to meet a wide variety of individual needs and interests. The materials are intended for use by universities and colleges, state departments of education, postsecondary institutions, local education agencies, and others responsible for the professional development of vocational teachers and other occupational trainers.

The PBTE curriculum packages in Categories A – J are products of a sustained research and development effort by the National Center's Program for Professional Development for Vocational Education. Many individuals, institutions, and agencies participated with the National Center and have made contributions to the systematic development, testing, revision, and refinement of these very significant training materials. Calvin J. Cotrell directed the vocational teacher competency research study upon which these modules are based and also directed the curriculum development effort from 1971 – 1972. Curtis R. Finch provided leadership for the program from 1972 – 1974. Over 40 teacher educators provided input in development of initial versions of the modules; over 2,000 teachers and 300 resource persons in 20 universities, colleges, and postsecondary institutions used the materials and provided feedback to the National Center for revisions and refinement.

Early versions of the materials were developed by the National Center in cooperation with the vocational teacher education faculties at Oregon State University and at the University of Missouri – Columbia. Preliminary testing of the materials was conducted at Oregon State University, Temple University, and the University of Missouri – Columbia.

Following preliminary testing, major revision of all materials was performed by National Center staff, with the assistance of numerous consultants and visiting scholars from throughout the country.

Advanced testing of the materials was carried out with assistance of the vocational teacher educators and students of Central Washington State College; Colorado State University; Ferris State College, Michigan; Florida State University; Holland College, P.E.I., Canada; Oklahoma State University; Rutgers University, New Jersey; State University College at Buffalo, New York; Temple University, Pennsylvania; University of Arizona; University of Michigan–Flint; University of Minnesota–Twin Cities; University of Nebraska–Lincoln; University of Northern Colorado; University of Pittsburgh, Pennsylvania; University of Tennessee; University of Vermont; and Utah State University.

The first published edition of the modules found widespread use nationwide and in many other countries of the world. User feedback from such extensive use, as well as the passage of time, called for the updating of the content, resources, and illustrations of the original materials. Furthermore, three new categories (K–M) have been added to the series, covering the areas of serving students with special/exceptional needs, improving students' basic and personal skills, and implementing competency-based education. This addition required the articulation of content among the original modules and those of the new categories.

Recognition is extended to the following individuals for their roles in the revision of the original materials: Lois G. Harrington, Catherine C. King-Fitch and Michael E. Wonacott, Program Associates, for revision of content and resources; Cheryl M. Lowry, Research Specialist, for illustration specifications; and Barbara Shea for art work. Special recognition is extended to the staff at AAVIM for their invaluable contributions to the quality of the final printed products, particularly to Donna Pritchett for module layout, design, and final art work, and to George W. Smith Jr. for supervision of the module production process.

Robert E. Taylor
Executive Director
The National Center for Research in Vocational Education

THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY
1960 KENNY ROAD / COLUMBUS, OHIO 43210

The National Center for Research in Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning, preparation, and progression. The National Center fulfills its mission by:

- Generating knowledge through research.
- Developing educational programs and products.
- Evaluating individual program needs and outcomes.
- Providing information for national planning and policy.
- Installing educational programs and products.
- Operating information systems and services.
- Conducting leadership development and training programs.

AAVIM
AMERICAN ASSOCIATION FOR VOCATIONAL INSTRUCTIONAL MATERIALS
The National Institute for Instructional Materials
120 Driftmier Engineering Center
Athens, Georgia 30602

The American Association for Vocational Instructional Materials (AAVIM) is a nonprofit national institute.

The institute is a cooperative effort of universities, colleges and divisions of vocational and technical education in the United States and Canada to provide for excellence in instructional materials.

Direction is given by a representative from each of the states, provinces and territories. AAVIM also works closely with teacher organizations, government agencies and industry.

MODULE C-25

Present Information with Films

Second Edition

Module C-25 of Category C—Instructional Execution
PROFESSIONAL TEACHER EDUCATION MODULE SERIES

The National Center for Research in Vocational Education
The Ohio State University

Key Program Staff:
James B. Hamilton, Program Director
Robert E. Norton, Associate Program Director
Glen E. Fardig, Specialist
Lois G. Harrington, Program Assistant
Karen M. Quinn, Program Assistant

Second Edition. Copyright © 1986 by The National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210.

Copyright is claimed until full term. Thereafter all portions of this work covered by this copyright will be in the public domain.

This work was developed under a contract with the Department of Education. However, the content does not necessarily reflect the position or policy of that Agency, and no official endorsement of these materials should be inferred.

1986

ISBN 0-89606-202-3

Published and distributed by the **American Association for Vocational Instructional Materials (AAVIM)**, 120 Driftmier Engineering Center, The University of Georgia, Athens, Georgia 30602, (404) 542-2586.

INTRODUCTION

Audiovisual equipment and materials are versatile tools that can be used in a variety of ways. And they can help ensure that your lessons will be more effective and interesting. The motion picture film is an especially valuable audiovisual device in terms of its ability to motivate students.

There are a number of advantages to using films, including the following:

- A color motion picture can bring a slice of reality into the classroom by portraying actual movement of people and things.
- A film can preserve for later review an event that has occurred.
- A film can make unavailable experiences available to students.
- Newer types of equipment—both 8mm and 16mm cameras and projectors—are more portable, less expensive, and easier to operate.
- With the newer equipment, teacher-made and student-made films become more of a reality, and individual viewing by students becomes more practical.
- Films allow students both to see and to hear about the material being covered.

Films can be used at any point in the lesson: short 8mm films can help in introducing or summarizing a lesson. Longer 8mm and 16mm films can aid in presenting lesson content. Films can also be used very effectively in combination with other types of media.

This module is designed to help you become competent in operating film equipment and in using films to present information in the classroom or laboratory. It will also help you gain skill in determining when a film is the best audiovisual device (or one of the best) to use for a particular lesson.

ABOUT THIS MODULE

Objectives

Terminal Objective: In an actual teaching situation, present information with films. Your performance will be assessed by your resource person, using the Teacher Performance Assessment Form, pp. 35–36 (*Learning Experience III*).

Enabling Objectives:

1. After completing the required reading, set up and operate a film projector (*Learning Experience I*).
2. After completing the required reading, present information with a film in a practice situation (*Learning Experience II*).

Prerequisites

To complete this module, you must have competency in developing a lesson plan and selecting student instructional materials. If you do not already have these competencies, meet with your resource person to determine what method you will use to gain these skills. One option is to complete the information and practice activities in the following modules:

- *Develop a Lesson Plan*, Module B–4
- *Select Student Instructional Materials*, Module B–5

Resources

A list of the outside resources that supplement those contained within the module follows. Check with your resource person (1) to determine the availability and the location of these resources, (2) to locate additional references in your occupational specialty, and (3) to get assistance in setting up activities with peers or observations of skilled teachers, if necessary. Your resource person may also be contacted if you have any difficulty with directions or in assessing your progress at any time.

Learning Experience I

Required

A 16mm sound film projector to set up and operate.

A screen to use with the projector.

A 16mm sound film to use in setting up and operating the projector.

A measuring device (ruler, yardstick, tape measure) to use in setting up the projector.

Optional

An audiovisual expert with whom you can discuss the uses and operation of film projectors.

An audiovisual equipment dealer whom you can visit or write to concerning equipment and supplies currently available.

Learning Experience II

Required

A 16mm sound film with which to present information in a lesson.

A 16mm sound film projector to use during the lesson.

A screen to use with the projector.

A resource person to role-play a student to whom you are presenting a lesson and to evaluate your competency in using films to present information.

Optional

A resource person to review the adequacy of your lesson plan.

A teacher skilled in presenting information with films whom you can observe.

Learning Experience III

Required

An actual teaching situation in which you can present information with films.

A resource person to assess your competency in presenting information with films.

General Information

For information about the general organization of each performance-based teacher education (PBTE) module, general procedures for its use, and terminology that is common to all the modules, see About Using the National Center's PBTE Modules on the inside back cover. For more in-depth information on how to use the modules in teacher/trainer education programs, you may wish to refer to three related documents:

The *Student Guide to Using Performance-Based Teacher Education Materials* is designed to help orient preservice and inservice teachers and occupational trainers to PBTE in general and to the PBTE materials.

The *Resource Person Guide to Using Performance-Based Teacher Education Materials* can help prospective resource persons to guide and assist preservice and inservice teachers and occupational trainers in the development of professional teaching competencies through use of the PBTE modules. It also includes lists of all the module competencies, as well as a listing of the supplementary resources and the addresses where they can be obtained.

The *Guide to the Implementation of Performance-Based Teacher Education* is designed to help those who will administer the PBTE program. It contains answers to implementation questions, possible solutions to problems, and alternative courses of action.

Learning Experience I

OVERVIEW

After completing the required reading, set up and operate a film projector.

You will be reading the information sheet, Operating the Film Projector, pp. 7–12.

You will be setting up and operating a 16mm sound film projector by completing the exercises specified in the Film Projector Worksheet, pp. 13–16.

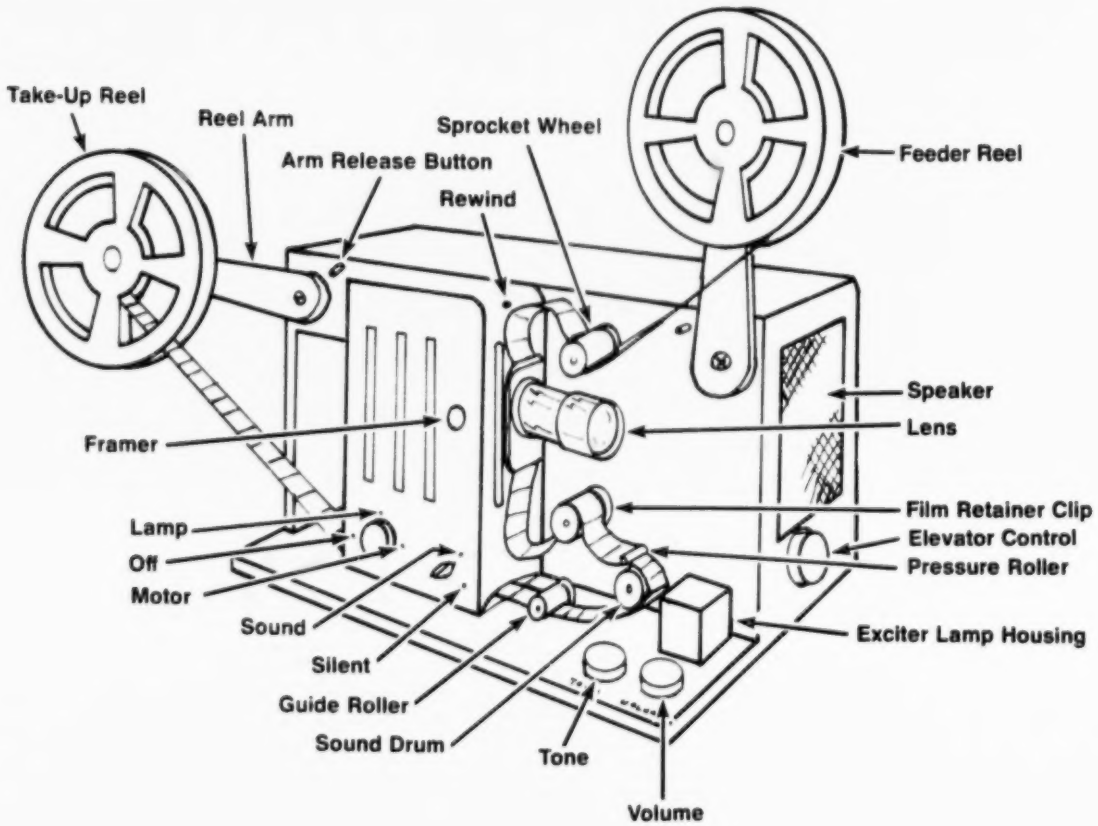
You will be evaluating your competency in setting up and operating the film projector, using the Film Projector Operation Checklist, pp. 17–18.

You may wish to locate and meet with a person with expertise in the area of audiovisuals for the purpose of discussing further the uses and operation of film projectors.

You may wish either to visit an audiovisual equipment dealer or to write to a dealer for catalogs describing the latest types of equipment and supplies available.

SAMPLE 1

FILM EQUIPMENT: SOUND PROJECTOR



Activity 1

For information explaining how to select, set up, and operate the equipment and materials necessary for a presentation that uses a film projector, read the following information sheet.

OPERATING THE FILM PROJECTOR

Projection Principles

There are basically three types of motion picture film projectors: the sound projector, the silent projector, and the cartridge projector. Since the sound projector is the most complicated of these three types and since it can be used to show both silent films and films with sound, the principles discussed in this section will relate to the sound projector. Sample 1 shows a typical sound projector.

The sound projector relies on three systems: the projection system, the film transport system, and the audio system.

Film projectors use a **direct projection system.** That is, the light travels in a straight line from the lamp to the screen. The only parts of the projection system visible in sample 1 are the lens, and the pressure plate and aperture behind the lens.

Enclosed within the box behind the aperture are a condensing lens, a projection lamp, and a reflector. The **projection lamp** is the source of the light. The **reflector,** located behind the lamp, helps ensure that all light is directed toward the condensing lens. The **condensing lens** takes the light and concentrates it evenly over the aperture area.

The **aperture** (also called the **film channel** or **gate**) is an opening or hole, the size and shape of which determines how much light will pass through to the film and lens. The **pressure plate** is designed to hold the film firmly against the aperture area. Finally, the light and film image pass through the projection lens to the screen. The **projection lens** is the focusing device for the projector.

The **film transport system** is simply the system of reels, sprocket wheels, retainer clips, pressure rollers, guide rollers, and claws designed to advance the film past the projection and sound system areas.

The **audio system** consists of the devices on the projector designed to translate the film's sound track into sound. If the sound track is **magnetic,** it operates like an audiotape. The sound is recorded after the film has been processed and, like the audiotape, the sound can be easily erased.

In the projector shown in sample 1, the sound track is **optical.** Note the **exciter lamp housing** and the **sound drum** in the illustration. When the film goes past the exciter lamp, this lamp sends a steady light through the sound track. The light is picked up by a photoelectric cell, which translates the variations of light it receives into parallel variations of electrical current.

When the **amplifier** receives these fluctuations of electrical current, it boosts their strength and sends these amplified electrical impulses on to the speaker. The **speaker** translates the variations in electrical current into sound.

Projector Placement

The film projector should be placed toward the **back** of the room on a high table. Exactly where it is placed depends on a number of variables: room size; darkness of the room; size of group viewing the film; the focal-length of the lens; and screen size and placement.

The projector is placed properly if (1) neither the projector nor the projectionist is blocking students' view; (2) members of the audience are not casting a shadow on the screen; (3) the projected image is well centered on the screen; (4) the projected image is nearly filling the screen; (5) the projected image is clear and well focused; and (6) the projected image is large enough to be seen easily by all viewers.

Projection Materials

The term *motion picture* is not precisely accurate. The motion you see when viewing a film is an illusion. Actually, a film is comprised of a series of still pictures taken in rapid succession. When these pictures are projected, the viewer is given the illusion of motion.

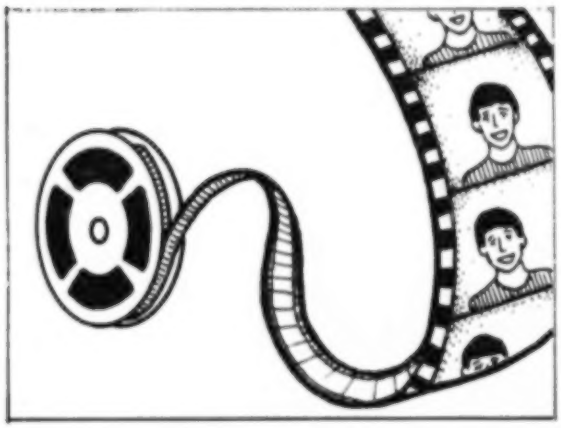
Films come in three widths, 8mm, 16mm, and 35mm; in color or black & white; with sound or without sound. The films you see in a movie theater are probably 35mm. Educational films are usually 8mm (standard or super) or 16mm. Super 8 and standard 8 films are the same width, but by changing the shape and placement of the sprocket holes and frames and by lengthening the film, the super 8 has been given 50 percent more image area than the standard 8.

With super 8 film and the newer, higher-quality equipment available today, the projected image can now be sharper and brighter. Where standard 8 film was adequate for use with 1–20 persons, super 8 can be used with up to 100 persons.

An 8mm film comes in reel-to-reel or cartridge form. The film in a cartridge is an endless loop. When a cartridge is inserted into a projector, it will run continuously, repeating itself again and again until the projector is turned off.

A 16mm film comes on a reel; the size of the reel usually indicates the approximate length of the film. The length can range from one minute (40 feet of film) to fifty minutes (2,000 feet of film). Any film that is longer than 50 minutes will be stored on more than one reel. Below is a chart showing the relationship of reel size to length of film showing time:

Diameter of Reel	Length of Showing Time
7"	10–11 minutes
10"	20–22 minutes
12"	30–33 minutes
14"	40–44 minutes

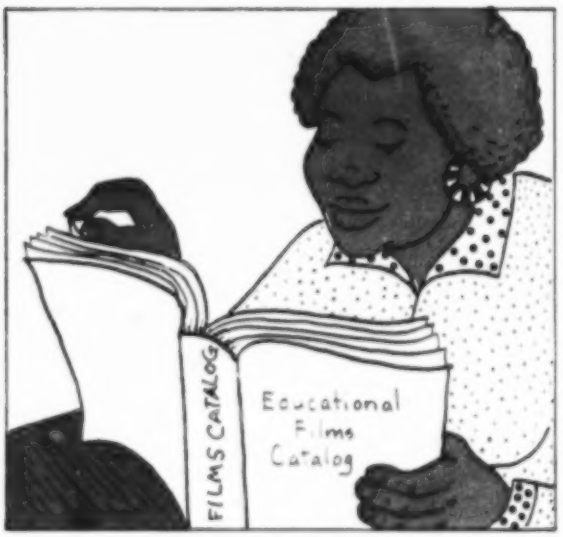


If the 16mm film is silent, it will have a double row of sprocket holes, spaced so that the film will advance at a rate of 16 frames (still pictures) per second. If the 16mm film has sound, it will have only a single row of sprocket holes, spaced so that the film will advance at a rate of 24 frames per second. In the space where the second row of sprocket holes would be on a silent film, there will be a sound track.

Because of this sprocket placement, a silent film **can** be shown on a sound projector, but a sound film **cannot** be shown on a silent projector. The sprocket wheel on the silent projector is designed for the double row of sprocket holes and will punch holes in a sound track.

There are a number of sources available to you for locating educational films, including the following:

- Organizations such as the Film Library Information Council, the Educational Film Library Association, the American Film Institute, the American Library Association, Indiana University Audio-Visual Center, and teachers' professional organizations
- Libraries, both public and school- or university-based
- University-based instructional materials centers
- Colleagues
- School film evaluation files
- Curriculum guides
- Commercial organizations that produce audio-visual equipment
- Publishers that have a media division
- Media journals and periodicals
- *Index to 16mm Educational Films*, and *Index of 8mm Educational Motion Cartridges*
  R.R. Bowker Co.
  1180 Avenue of the Americas
  New York, NY 10036
- *The 8mm Film Directory*
  Comprehensive Service Corporation
  250 West 64th Street
  New York, NY 10023
- *Educators Guide to Free Films*
  Educators Progress Service
  214 Center Street
  Randolf, WI 53956
- National AudioVisual Center
  National Archives and Records Service
  General Service Administration
  Reference Section JJ
  Washington, DC 20409
- *Library of Congress Catalogue of Motion Pictures and Filmstrips*



Operation Procedures

If your film is an 8mm film loop, the procedure is simple. The projector must be plugged in. The film cartridge is inserted into the projector, the projector is turned on, and the film is focused by rotating the lens.

If your film is an 8mm or 16mm reel-to-reel film, the procedure is more complicated. It would be helpful to you to refer to either sample 1 or an actual sound projector as you read the remainder of this section. The procedure described is a general one for a 16mm sound film projector. Projectors will vary, but if you are familiar with the general procedure described here, you should be able to adapt this procedure easily to other projectors.

1. If an operating manual is available for the projector, use it.
2. Open the **projector case**.
3. Fold out the **reel arms.** On many machines, the arms are locked in place. If the arms are locked, check for a **release button.**
4. Attach the **drive belt** for the reel arms if necessary. On most newer machines, this is not required.
5. Turn the **sound/silent switch** to *sound*.
6. If the **speaker** is separate from the projector, connect the speaker.
7. Check the **rewind switch** to make sure it is not turned on.
8. Turn on the **lamp** and **motor.**
9. Focus the projector using the edge of the **aperture plate** as a focusing guide:
   - Center the image on the screen. To raise or lower the projector, use the **elevator control.**
   - Move the projector so that the image fills the screen. To reduce the screen image, move the projector closer to the screen. To enlarge the screen image, move the projector away from the screen.
   - Rotate the **lens** to focus the image so that it is clear and bright.
10. Turn off the lamp and motor.
11. Thread the machine. Newer projectors are self-threading: once you get the film started, the machine, when turned on, threads itself. However, you need to monitor this self-threading process carefully as it is not foolproof. If something goes wrong, turn the machine off immediately. If the projector is not self-threading, a threading guide will usually be printed on the projector or on the case somewhere. The following is a general threading guide:
    - Place the film reel on the **supply spindle** on the **feeder reel arm.** Usually the reel has a square hole on one side and a round hole on the other so it will only fit on the spindle correctly. The reel is on correctly if the film (title first) is coming off the reel clockwise, with the sprocket holes on the film positioned so that they are on the side of the film closest to you.
    - Rotate the reel so that you have a three-foot piece of film with which to thread the machine. Handle only the lead-in of the film (the section before the title begins).
    - Place an empty reel on the **take-up reel arm.** This take-up reel should be the same size as the feeder reel.
    - Advance the film around the **first sprocket wheel.** Make sure that the teeth on the wheel are going through the sprocket holes in the film so that the film won't be damaged. The sprocket wheel is designed to pull the film off the feed reel at a steady rate of speed. Therefore, the film must be firmly locked around the sprocket wheel with the **film retainer clip.**
    - Make a loop in the film big enough for two fingers to fit within it. There will be two such loops made. These loops serve two purposes.

      First, the film is actually starting and stopping very quickly as it passes through the film channel behind the lens. The loops act as shock absorbers so that the start-stop motion does not put unnecessary strain on the film.

      Second, the sound on the film is printed seven inches ahead of the picture so that the sound that corresponds with a given picture is passing the sound drum at the same time as the picture is passing the lens. If the loops are not the right size, the sound and the picture will not be properly synchronized.

- Advance the film through the **film channel** between the **aperture** and the **pressure plate** by opening the **gate**, inserting the film, and closing the gate firmly so that the pressure plate is holding the film tightly against the aperture area.
- Make another loop the size of two fingers.
- On some machines, there will be a **second sprocket wheel** at this point. The procedure for advancing the film around this sprocket wheel is the same as for the first sprocket wheel.
- Advance the film through the sound system, winding it tightly around the **sound drum** so that it passes by the **exciter lamp housing.** If there is a **pressure roller,** make sure the roller is pressing the film firmly against the sound drum.
- Thread film around the **lower sprocket wheel** or **guide roller.**
- Thread film around **shock absorber idler wheel.** This wheel prevents sudden tugs from the take-up reel.
- Place film clockwise around the **take-up reel** and turn the reel several complete revolutions so that the film is held firmly in place.
- Double-check your threading job by advancing the film by hand to make sure it isn't binding.

12. Turn on the motor and lamp.
13. Adjust the picture and sound:
    - Set **volume** and **tone** at comfortable levels.
    - Adjust **lens** to get a sharp image.
    - If more than one frame is showing at once, use the **framer** to adjust this.
14. Reverse film to starting point and show the film.
15. Stay with the projector while the film is showing. Should any problem arise with the film or the projector, stop the projector immediately.
16. If the film should break during the showing, do not try to make temporary repairs with tape or staples. Stop the machine and then rethread it, leaving enough extra film at the end to wind the broken end around the take-up reel several times to secure it.
17. When the film is over, turn the volume down to zero and turn off the lamp.
18. Let the tail end of the film run completely through the projector and then turn the projector off.
19. If the film is from a library or distributor, it probably should not be rewound. The condition of the film must be checked when it is returned, and it is easiest for these people to rewind and check the film at the same time. If you need to rewind the film, make sure that the film is not threaded around the sprockets while it is being rewound.
20. Let the lamps cool for a few minutes.
21. Prepare the projector to be put away:
    - If the speaker is separate, detach it from the projector.
    - Unplug the power cord and place it in its storage area.
    - Remove both reels.
    - Return the reel arms to their original position. (Don't forget to use the release button if there is one.)
    - Return the elevator control to its original position.
    - If the drive belt is separate, remove it and store it.
22. Close the case.

Projection Screen

Since 8mm film loops are especially effective when used on an individual or small-group basis, the viewing systems are designed accordingly. One such system looks like a television with a 24" screen. Below the screen is a door. You simply open the door, insert the 8mm film cartridge, close the door, turn the machine on, and the film is projected on the 24" screen.

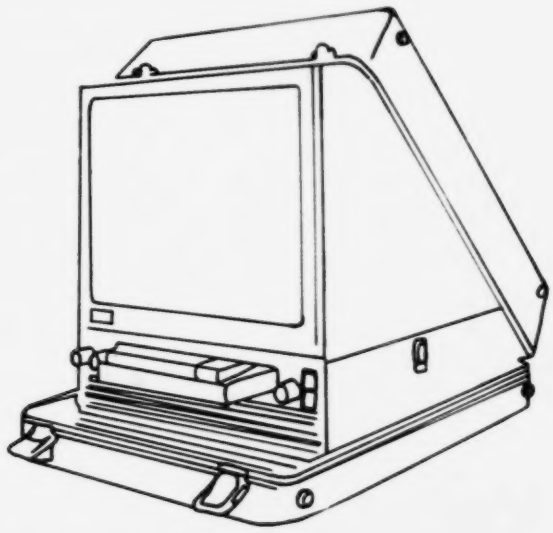
Another system involves a small projector and a **rear-view telescreen.** Picture in your mind a study carrel with a projector on the left. On the right is a small screen, which is facing you. The screen has a system of mirrors behind it. The projector is facing sideways with the lens aimed to the right toward the mirrors. The projector image hits those mirrors and is redirected toward the screen. This same type of system is used to project 16mm films. However, the projection equipment and rear-screen viewer are rather large and must be placed in a small area of the room rather than in a carrel.

Sample 2 is an example of another type of rear-screen viewer for use with 8mm film loops. This particular piece of equipment combines the projection equipment and viewing screen in one unit. You place a film cartridge in the front, and the image is reflected from mirrors behind the screen onto the screen. This machine is ideal for small-group or individual viewing.

A standard 16mm movie projector will fill a 52" × 70" screen at a distance from projector to screen of 30'. Ideally, the screen should be one-sixth as wide as the distance from the screen to the last row of seats.

SAMPLE 2

REAR-SCREEN VIEWER



Another way of stating this rule is that 6 multiplied by the width of the screen (6 × w) equals the **maximum** viewing distance. The **minimum** viewing distance is calculated by multiplying 2 by the width of the screen (2 × w). Thus, if you had a screen 70″ wide, no viewer should be seated farther from the screen than 35′ (70″ × 6 = 420″ ÷ 12″ = 35′) or closer to the screen than 11′8″ (70″ × 2 = 140″ ÷ 12″ = 11′8″).

There are three basic types of screens: matte, glass-beaded, and lenticular. A **matte** screen looks like a dull white cloth and will provide a good, bright picture over a wide viewing angle (i.e., persons seated at the center of the room and at either side of the room will see the same bright picture).

A **glass-beaded** screen has a surface covered with tiny glass beads. It gives a much brighter picture than the matte screen, but only to persons seated along the line of projection.

The **lenticular** screen has tiny ridges molded into the surface. It gives a bright image to viewers from all angles.

Since the film projector is operated in a darkened room, any one of these screens can be used. If you have more than one type of screen available, consider how your students will be seated and select the screen that will produce the best picture for these viewing angles.

If your projector is going to be pointed at an angle toward the screen, a **keystone effect** will be produced. Keystoning refers to a distorted image in which the top of the image appears larger than the bottom because the top part of the image is farther away from the projector. This can be corrected by moving the top of the screen forward, if possible.

Machine Maintenance

The 16mm sound projector is a complicated piece of machinery and, as such, it needs to be treated carefully. The lens and film channel should be kept clean. The lens can be cleaned with a special silicone-coated cloth or tissue. The film channel can be cleaned with a soft cloth or small brush.

The operation procedures described for the projector should be carefully followed. While the projector is running, someone should be nearby so it can be turned off immediately if anything should go wrong.

When you use the projector, it is always a good idea to have spare lamps available in case one should burn out. You should have both a spare projection lamp and spare exciter lamp. To change a lamp, wait until it is cooled, unplug the machine, and then remove the burned-out lamp.

Use a cloth to handle the new lamp during replacement since fingerprints or other foreign substances on the lamp cause light to be reflected back into the lamp. This increases the heat and shortens the projection life.

Jarring or bumping the lamp while it is hot can also shorten its projection life. The jarring can cause the filaments in a hot lamp to fuse together. If this happens, the lamp will probably burn out the next time the projector is turned on.

The following worksheet is designed to help you become competent in operating the film projector. No one need see this worksheet unless you choose to show it to them, so do not be reluctant to record what actually happens, right or wrong. The sheet is not intended to show proof that you did everything perfectly the first time. It is intended (1) to help you to organize your knowledge about the operation of film equipment, (2) to help you apply that knowledge to actual equipment, (3) to point out to you where you have gaps in your knowledge, and (4) to help you determine how to fill those gaps. Completed thoughtfully and thoroughly, this sheet should make an excellent reference for you in the future. Read the directions carefully and then complete each of the 21 exercises.

FILM PROJECTOR WORKSHEET

Directions: Locate a 16mm sound motion picture projector, a screen to use with the projector, a 16mm sound film, and a measuring device (e.g., ruler, yardstick, tape measure). Arrange for the equipment and materials to be placed in the room in which you will be working with them. Complete each of the following exercises using the actual equipment and materials. Each exercise requires a short response. Please respond fully, but briefly, and make sure you respond to all parts of each item. Do **not** answer simply yes or no; explain your responses. Should you have any difficulty with an exercise, make a note of that problem.

1. What is the make and model of the film projector with which you are working? What types of film (8mm, 16mm, 35mm; manual or self-treading; sound or silent) is it designed to project?

2. Is there an operating manual? Does it contain any information that is different from or that was not covered in the information sheet? If so, describe that information.

3. What type of table is being used to hold the projector (portability, height, etc.)?

4. Describe the film that you are using (8mm, 16mm, 35mm; sound or silent; black & white or color; length in feet or time).

5. Describe the type of screen with which you are working (matte, glass-beaded, or lenticular; how it is mounted; what size it is; etc.).

6. Set up the screen for use. Briefly describe any special procedures involved (e.g., "There is a release button that must first be pushed."). If the screen is portable, where have you placed it, and why?

7. What type of lighting are you using in the room? Is this type of lighting appropriate for using the film projector? Why or why not?

8. Remove the projector from its case. How is the projector packed (how many cases; what loose parts are included; are the speakers separate, part of the case, or enclosed)?

9. Locate the projector lamp. Remove the lamp from the projector and then replace it. Describe the lamp's location and the procedure for removing it.

10. Plug in the speakers (if necessary), plug in the projector, open the reel arms, and place the film reel and an empty reel on the reel arms properly. Draw a rough sketch of the working side of the projector and then locate and label the following parts: feeder reel; take-up reel; reel arms; sprocket wheel(s); film retainer clip(s); pressure roller; sound drum; exciter lamp housing; guide roller; lens; pressure plate; elevator control; tone control; volume control; rewind control; framer control; off/on (lamp, motor) control; sound/silent control; and arm release button.

11. Thread the film through the projector (refer to threading diagram on the projector if there is one). Describe the threading procedure in one of two ways: either draw a threading diagram, properly labeled; or describe the threading procedure in writing, referring to specific parts of the projector.

12. Advance the film by hand to check the threading. Turn on the motor and lamp. Focus the image on the screen. Describe the procedure for focusing.

13. Raise or lower the screen image so that it is centered on the screen. Describe the method for elevating or lowering the image.

14. Locate the framing lever. Adjust it and describe what happens to the screen image when the lever is moved. Then, frame the image properly.

15. Move the projector gradually closer to the screen, refocusing as you get closer. How close to the screen can you get before either (1) you can no longer get the picture in focus, or (2) the material is too small to see?

16. Move the projector gradually away from the screen, refocusing as you get farther away. How far away from the screen can you get before either (1) you can no longer get the picture in focus, or (2) the image is too large for the screen?

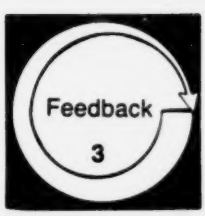
17. At what distance (from screen to projector) do you get the best screen image?

18. Are you using the type and size of screen recommended for use with the film projector according to this module? If not, is this affecting your ability to project a high-quality image? How is the quality affected?

19. Assume you have a class of 20 students. Arrange the seating, the screen, the projector, and the lighting as you would if you were using the projector to present information to that group of 20. Turn on the projector, start the film, make any necessary adjustments (e.g., to the focus), and show about five minutes of the film. **NOTE:** At this point, move to the explanation of Part I in the Feedback that follows.

20. Rewind the film and describe how the rewinding procedure differs from the theading procedure.

21. Remove the film and take-up reel and replace the projector and the film in their cases. Then, move to the explanation of Part II in the Feedback that follows.



Part I: After you have completed the first 19 items on the worksheet, use Part I of the Film Projector Operation Checklist, pp. 17–18, to evaluate your work. **Part II:** After you have completed Items 20 and 21, use Part II of the Film Projector Operation Checklist, p. 18, to evaluate your work.

FILM PROJECTOR OPERATION CHECKLIST

Name _____

Date _____

Resource Person _____

Directions: Place an X in the YES or NO box to indicate whether each item was performed successfully or not.

Part I	Yes	No
When you were working with the projector, you remembered to:		
1. handle the projection lamp with a soft cloth	☐	☐
2. be careful not to jar the machine (and lamp) while the lamp was hot	☐	☐
When you were threading the film into the projector, you made sure that:		
3. you handled only the lead-in to the film (the section before the title begins)	☐	☐
4. the film came off the feeder reel clockwise with the sprocket holes on the film positioned on the side closest to you	☐	☐
5. the teeth in all sprocket wheels were properly engaged in the film's sprocket holes	☐	☐
6. two tension loops, each the size of two fingers, were made, one on each side of the film channel	☐	☐
7. the gate was firmly closed	☐	☐
8. the film was held tightly against the sound drum	☐	☐
9. the take-up reel was the same size as the feeder reel	☐	☐
10. the film advanced clockwise around the take-up reel	☐	☐
The film projector, screen, and room are arranged for the group of 20 so that:		
11. the projector is at the back of the room	☐	☐
12. the projector is on a high table	☐	☐
13. the projector and the projectionist will not block the view of anyone in the class	☐	☐
14. the projected image is large enough for all viewers to see it clearly	☐	☐
15. the image is well centered on the screen	☐	☐
16. there is no keystoning effect produced	☐	☐
17. the room is totally dark	☐	☐

	Yes	No
The projected image is:		
18. clear and sharp	☐	☐
19. bright	☐	☐
20. well focused	☐	☐
The sound is:		
21. well balanced in tone	☐	☐
22. clear	☐	☐
23. sufficiently loud to be heard by all 20 persons	☐	☐

(Return to the worksheet and complete Items 20 and 21.)

Part II

	Yes	No
Before you rewound the film, you made sure that:		
24. the rewind control was engaged	☐	☐
25. the projector and lamp were turned off	☐	☐
26. the volume was lowered to zero	☐	☐
27. the film was not engaged around any of the sprocket wheels	☐	☐
Before returning the film and the projector to their cases, you:		
28. waited for the lamp to cool	☐	☐
29. removed the feeder and take-up reels	☐	☐
30. returned the reel arms to their storage position (engaging a release button first if necessary)	☐	☐
31. returned the lens (focus) and elevator control to their original positions	☐	☐
32. detached speakers (if necessary) and stored them	☐	☐
33. removed drive belt (if necessary) and stored it	☐	☐
34. unplugged the machine and stored the cord	☐	☐

Level of Performance: All items should receive YES responses. If any item receives a NO response, correct that condition using the actual equipment and materials. If you have trouble correcting the condition, check with your resource person or someone with expertise in the area of audiovisuals.

20

You may wish to contact your resource person or someone else you or your resource person may know of with expertise in the area of audiovisuals. This person could discuss with you special techniques or helpful hints that can be of use to you when you work with the film projector.

You may wish to check into the latest advancements in film projectors (especially 8mm). You may also wish to identify films that are currently available. If there is an audiovisual equipment dealership in your vicinity, you may wish to visit there and look over the equipment or to make arrangements to have one of the salespersons talk to you. If you cannot make such a visit, you could write to one or more of the major manufacturers of motion picture cameras and projectors, asking for catalogs. Another source of information would be producers of educational films; these companies also offer catalogs.

NOTES

Learning Experience II

OVERVIEW

After completing the required reading, present information with a film in a practice situation.

You will be reading the information sheet, Using Film Projectors as Instructional Devices, pp. 23–28.

You will be selecting an objective in your occupational specialty that lends itself to a film presentation.

You will be selecting, modifying, or developing a lesson plan designed to achieve that objective using a film to illustrate the lesson.

You may wish to have your resource person review the adequacy of your plan.

You will be obtaining (and previewing) the necessary film and making arrangements to secure the necessary equipment.

You may wish to arrange through your resource person to visit a classroom in which a teacher experienced in the use of films is presenting information using films.

You will be presenting your lesson to your resource person.

Your competency in presenting information with a film will be evaluated by your resource person, using the Presentation Checklist: Films, pp. 31–32.

For information describing the general and specific uses of films in presenting information and explaining the procedures for their classroom use, read the following information sheet.

USING FILM PROJECTORS AS INSTRUCTIONAL DEVICES

When **motion** is an important part of a concept or skill, films are an excellent means of illustration. Through films, students can visit inaccessible places, view microscopic processes, and review demonstrations. A film is one of the "next best things to actually being there."

Since films are often colorful, compelling, and interesting both to see and to hear, there may be a tendency on the part of teachers to want to use films to the exclusion of other media. This tendency can be avoided if you know the specific advantages and disadvantages of using films and the particular types of material that can be illustrated by using films.

Advantages

As mentioned previously, one prime advantage of the film projector is that it can bring to the students visual experiences that closely approximate reality. In fact, films have advantages over reality for several reasons:

- An item or process that could not be viewed by the naked eye in reality can be viewed on a film that used photomicrography to enlarge the item.
- Through slow-motion photography, a rapid process, such as threading a projector, can be slowed down so the transitions or steps can be easily viewed.
- Through time-lapse photography, a slow process, such as the growth of a seed, can be viewed in one brief sitting.
- Through animation, an artist's drawings can be made into a film that presents abstract concepts in a concrete way.
- A film can be stopped so that a particular frame can be studied for an extended period of time.
- A process that would be difficult to demonstrate—one that is, in reality, hazardous; requires equipment that is not readily available; or requires a skill that the teacher does not possess—can be demonstrated through a film.
- A film, unlike reality, allows students to view the exact sequence of events more than once, presents only those events that are precisely related to the topic, and presents them in the most logical order.

There are some unique advantages associated with 8mm equipment and materials. The projectors and cameras, both cartridge and reel-to-reel, are relatively inexpensive, and reasonably simple to operate. Thus, teacher-made (or student-made) films can be shot of demonstrations or other events as they occur.

The 8mm, single-concept film loops are ideally suited for individual viewing. The film loop cartridge and the cartridge projector are nearly foolproof to load and operate. Consequently, users are not as likely to damage the equipment or materials. In addition, the cartridge protects the film from dirt and damage and makes the films easy to store.

A well-executed and carefully filmed demonstration can be shown to the entire class with an 8mm reel-to-reel film. Each class viewing the film will be assured of seeing a well-executed demonstration, probably at closer range than with an actual demonstration and with less teacher preparation involved. If the film is also produced as a film loop, then it will be available for individual viewing and reviewing.

Students can use a teacher-made or commercially produced film loop to view or review a difficult concept or complicated demonstration until each reaches mastery at his/her own pace. Some cartridge projectors allow the students to "freeze" the film (to stop it in progress) so a particular frame can be studied. Others are designed to allow the students to advance the loop frame by frame like a filmstrip. Thus, the loop can be viewed as a series of stills or in motion.

One other advantage of 8mm and 16mm films is that they have the potential to provide all students in a class with a common experience. The students in your classes will come to you with a variety of backgrounds and experiences. A film can provide a common frame of reference for the different individuals in your class to use as a basis for discussion.

Disadvantages

Probably the two biggest disadvantages associated with films are that (1) the projectors usually have to be **shared** and (2) the films (especially 16mm) have to be **borrowed** or **rented.** For example, if you know of an excellent film you can rent to illustrate a lesson on the job interview, you must also know **exactly** which day you will be covering that material. In addition, you must order the film from the distributor and sign up for the school projector well in advance.

However, the film may not be available on the day that you need it. Your class may have gotten slightly off schedule. The projector may not be available when you need it. The film may arrive in poor condition.

Suppose you locate a seemingly perfect film in a catalog from a film distributor but would like to be reassured about its quality before you pay the rental fee. Film distributors who rent films do not usually send out films for previewing purposes. This is understandable, since the film could be shown several times to classes during the "preview" session without their getting any rental fee. Without being able to preview the film, it is difficult to evaluate the film's actual quality and applicability.

Another potential disadvantage is that the film projector needs to be operated in a **room** that is almost totally dark. It is possible, however, to use it in a room that is not totally dark if your screen has wings on each side to shade the screen from light.

Many times, the ordinary classroom cannot be made dark enough, and you will have to move the class to a special room in order to show the film. Most of these special rooms are built to accommodate large groups (e.g., auditorium-type facilities). In a large, dark room, you have no eye contact with students, and class control is more difficult.

Seeing a film in the auditorium may also suggest to students that the film-viewing is "entertainment"—something separate and apart from normal course content. In fact, films, like all instructional media, should be presented as essential elements in the flow of the lesson. They should be an inherent part of the lesson presentation, not a departure from normal classroom procedures or an extra added attraction.

The **operation** of the film projector can be another disadvantage since the reel-to-reel film projector that is not self-threading is just complicated enough in appearance to threaten some persons unfamiliar with the equipment. In fact, the projector is not that difficult to thread and operate. It is a skill that is easily mastered with a little direction and a little practice.

Another disadvantage associated with the operation of the equipment is that, while the projector is running, it is recommended that someone be near the equipment to operate it and turn it off in case something should go wrong. If this person is the teacher or a student in the class, his/her attention will be divided between watching the film and watching the equipment.

All students should have their full attention on the film. You also should have your full attention on the film (with an occasional glance at student responsiveness to the film) since you should be setting an example of good viewing and listening skills. This problem can be overcome if the school has a media staff or a student media crew whose members handle audiovisual presentations during times in which they have no scheduled classes.

Finally, there are a few disadvantages related to the **materials** being used. First, if a film is available only in 16mm, it is not well suited to individual viewing. Second, 8mm cartridges produced by one manufacturer may not operate on an 8mm projector made by another company.

A third disadvantage relates to the audience level for which the film was produced. The films that are available from commercial agencies are prepared for very specific audiences. It is possible to find a film that covers exactly the right topic, but that covers it at a grade level or in a specific frame of reference that does not meet your needs or those of your audience.

Fourth, it is possible for students who are viewing a film that includes time-lapse photography or photomicrography to get an incorrect or distorted view of the time and size concepts involved.

Most of the disadvantages mentioned in this section can be avoided or overcome with careful planning on your part. In addition, as 8mm film loops and equipment become more common in schools, individualized viewing of films will be more feasible, and the availability of films covering a wider area of levels, interests, and subjects should increase.

Classroom Procedures

Part of your plans for keeping up to date professionally should involve getting to know the best films in your occupational area through catalogs, journals, and curriculum guides. You should also make an effort to learn of high-quality films through contacts with colleagues and persons in media and curriculum centers at the district and state levels.

However, a lesson does not start with a film and then build around it. The lesson starts with objectives. Once you know the objectives of your lesson, you can determine what type of instructional media might best help your students achieve those objectives.

If you decide that a film is one of the materials that could help you, your next step is to determine the types of projectors to which you have access (standard 8, super 8, or 16mm). Then you can locate, preview, and evaluate films that can be shown on the available projectors and that cover the appropriate subject matter.

Previewing and evaluating films. It was mentioned previously that previewing a film is not always possible through the distributor, but there are ways to get around this. If you and the other teachers in your institution or district locate a number of films through a distributor's catalog that appear worthwhile, you can sometimes arrange for the distributor to come to the school and spend a day or an afternoon showing each of the films in which you are interested. If you know of another teacher in the institution or district who is renting a particular film, it might be possible for you to arrange to preview it during the time he/she has the film in his/her possession.

If you can preview the film, there are a number of things you should be looking for:

- Does the film fit the lesson objectives?
- Is it interesting and motivating, and does it appeal to the eyes and the ears?
- Is the film content and method of presentation appropriate for the needs, interests, and abilities of your students?[1] For example, is the vocabulary level appropriate?
- Is the content accurate, or are there major errors or omissions?
- Are the photography and sound well produced?
- Is the film in good condition?
- Will the film make a definite contribution to the lesson (e.g., explaining, clarifying, illustrating), or would the lesson be more effective with some other type of media?
- Is it up to date?

If a film meets seven of the above criteria perfectly but falls short on the fourth question—errors and omissions—you can use the film in the lesson anyway **if** (1) the errors are not too serious; (2) you explain to the students before showing the film what those errors are so they can watch for them; or (3) you explain to the students that there are errors and omissions and ask them to see if they can pick them out. The latter technique assumes that students have some background in the area already.

1. To gain skill in determining student needs and interests, you may wish to refer to Module B-1, *Determine Needs and Interests of Students*.

One area of errors and omissions that you need to be aware of concerns commercial films produced by companies to promote their own products or services. Sometimes, in attempting to promote themselves, companies may present information that is misleading.

Another caution to observe when you are previewing a film concerns whether a film is "entertaining." A film can so thoroughly entertain you that you fail to notice that it doesn't do an adequate job of instruction. On the other hand, a film can be amusing and entertaining **and** informative and educational. The point is not to let the entertainment value of a film distort your evaluation of the content.

If you absolutely cannot preview a film, but (1) you have heard from a number of colleagues that it is excellent, (2) critical reviews or information in catalogs suggest that the film is worthwhile, and (3) your sources of information provide you with answers to most of the eight evaluation questions listed above, you could chance renting the film (assuming you have a budget that allows such risk). When the film arrives in the late afternoon the day before you wish to show it, you could then view it in terms of your lesson plans and objectives. Probably, if you have gotten reliable information from colleagues and reviewers, the film will be applicable.

However, if it is **not,** don't use it just because you rented it and must get your money's worth. Whenever your lesson presentation includes a film, especially one that is to arrive in the mail, your lesson planning should include an alternative method of presentation. Then, if the film doesn't arrive or there are equipment problems, you can use the alternative method. If you are getting a film you have not previewed and viewing it indicates to you that it is not satisfactory, use the alternative plan.

Again, films are to be used to support and enhance a lesson. They are to be used to help meet the lesson objectives. And they are to be an inherent part of the lesson presentation. A person who is using a film to break the monotony of the regular instruction probably needs to spend some time determining why the lessons are monotonous instead of artificially enlivening the lesson with an entertaining film.

Arranging and planning for the film presentation. Once you have, in fact, determined that the lesson needs a film and have selected and previewed the film, you are ready to finalize your arrangements and your lesson plans. In terms of arrangements, you will need to reserve the projector (and perhaps a room if yours is not dark enough), contact the media crew (if there is one), and order the film for the proper day. It is desirable to place your order by phone (if possible). Then, if the film is

not available when you need it, you might be able to arrange another satisfactory time. After ordering by phone, you should confirm the order by mail.

In preparing your lesson plan, you need to ask yourself certain questions such as the following:

- At what point in the lesson will the film be shown?
- How are you going to prepare the students for the film?
- Are you going to show the film straight through, or will you stop periodically for discussion? If it is a short film, will you show it twice (i.e., show film once, raise questions, and then reshow it to allow students to locate answers within the film)?
- What method of summary are you going to use?
- How are you going to evaluate what the students have learned from the film?
- In what ways are you going to get feedback on the students' evaluations of the film?
- Are there any follow-up activities you can plan that grow out of the film presentation?

Some films are accompanied by teachers' guides. These guides are written for a general audience, not for your specific needs. Thus, while they may have some good ideas that apply to your situation, it is probably not a good idea to follow their activities exactly and completely. Even if nothing in the guide fits your needs exactly, however, the guide can be useful in helping you to think of ideas and activities of your own that do fit your needs. It is a good starting point, especially if you wish to develop a study guide of your own to distribute to students before or after the film.

Setting up the room and preparing the class members. Before class on the day the film is to be shown, you need to set up the room, the film, and

the projector. In order to be adequately prepared, you should do the following:

- Place the projector and the screen.
- Arrange the seating.
- Thread the film, adjust for sound and focus, and check to see that the projector is operating properly.
- Make sure that you have spare projection and exciter lamps available.
- Eliminate distractions.
- Make sure there are no cords or cables exposed that someone could trip over.

In some schools, these equipment concerns will be handled by media crews.

Before the film is shown during the lesson, the students need to be prepared. Films are shown in a darkened room and are run at a predetermined speed (unlike slides or filmstrips with which each frame can be left on the screen indefinitely). Thus, students should be instructed not to try to take notes during the film. Therefore, it is very important that they know in advance the key things to look for. One way of handling this is to distribute a teacher-made study guide. Another way is to orally present the key items to look for.

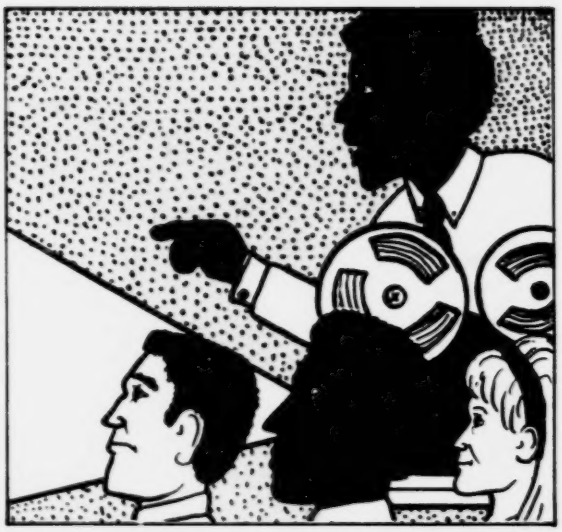
Raising questions or allowing students to raise questions is another method of preparing students. This gives students a purpose for watching the film: to find answers to these questions. If students know why they are viewing a film and if their attention has been directed toward locating key points in or answering key questions through the film, they will probably get more out of the film and retain more of what they learn.

If there will be unfamiliar vocabulary in the film, this needs to be discussed prior to the showing of the film. You can provide students with a printed glossary of terms (e.g., handouts, chalkboard, overhead transparencies). You can explain and discuss the terms prior to the film. If the film and the students' abilities allow it, you can have the students look for the terms as they appear in the film and try to define them through the information given in the film.

If you had noted any errors or omissions in the film during your preview, these areas need to be mentioned to the students.

Finally, for students to get the very most from a film, they need to be able to see how it relates to what they already know or have experienced.

Showing the film. Once students are prepared, the room can be darkened and the film shown according to your plans. During the showing, someone needs to stay with the projector in case something should go wrong. At the end of the film, you need to



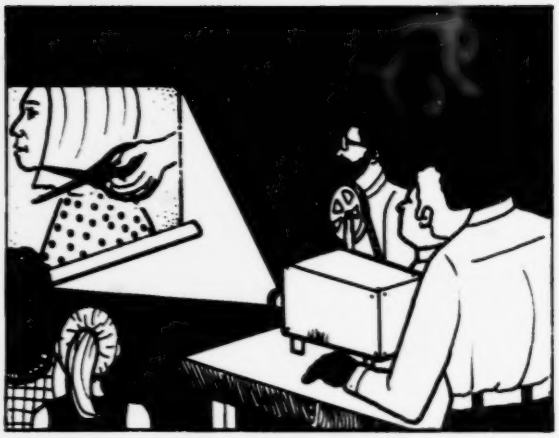
carry through on your planned activities for discussion, summarization, evaluation of the film and of student understanding, and explanation of any follow-up activities to be pursued.

After the class is dismissed, you can deal with the business of rewinding the film (if necessary) and packing both the film and the projector away in their cases. In this way, the operation of the equipment does not interfere with the flow of the lesson.

Specific Applications

A film can be used to show students **how to do something.** This is especially helpful if what you are showing is ordinarily dangerous, if the steps are complicated, or if some of the manipulations are difficult to view. Through film, students can see close-ups of each step of the operation, and they can view it from the same angle as if they were performing the operation themselves. Furthermore, through stop-action, the film can be stopped at key points so students can get a longer look. (Do not overuse this technique, however, since it is hard on the machine and the film.)

A film can be used to **explain** a concept, process, or skill. A concept that is very abstract and difficult for students to grasp often can be explained visually through an animated film. For example, an animated cartoon of how food is transformed into energy can help students understand the concept far more quickly and easily than could a lengthy oral or written explanation. A film that explains and illustrates the need for safety procedures could be used if you wish to attempt to make students more safety-minded.



A film can be used to **inform** students. For instance, if you are trying to help students grasp the career opportunities available to them, films showing actual workers performing their jobs in actual situations can convey this career information to the students in a real and meaningful way.

A film can be used for **drill.** When students are learning a new skill, it can be very helpful to them if there is a film (e.g., an 8mm film loop) that shows the skill or operation being performed step by step. Students can then view the film as many times as necessary on an individual basis.

A film can take the place of a **field trip.** When budget, time constraints, or distance involved prevent the class from making a field trip, a film can provide an experience that closely approximates reality. If, for example, you know of a plant that has just purchased a piece of equipment that will probably be in common use when your students graduate, you will probably want them to see this equipment firsthand. However, if a field trip is not possible, a film (produced by the manufacturer of the equipment or shot locally at the plant) can provide students with a similar experience.

A film can be shown only part way through so that it is left **open ended.** Students can then be asked to solve the problem, fill in the missing information, or apply some other sort of problem-solving techniques. The remainder of the film can then be shown and students can compare their solutions or information to that which is contained in the film.

Select a student performance objective in your occupational specialty that could be achieved, at least partially, by use of a film. (In a real-world situation, you start with an objective and then select the most appropriate materials and teaching methods. In this practice situation, however, you need to select an objective that lends itself to using a film.)

Prepare a detailed plan that includes the use of a film. In your plan, explain what type of film is needed, how it will be used, and when. Instead of developing a lesson plan, you may select a lesson plan that you have developed previously and adapt that plan so that it includes the use of a film.

You may wish to have your resource person review the adequacy of your plan. He/she could use the Teacher Performance Assessment Form in Module B–4, *Develop a Lesson Plan*, as a guide.

Based on your lesson plan, select (and preview) the film you will need to make your presentation. Also, arrange to have a film projector and a screen available when you make your presentation. Having previewed the film, finalize your plans.

Before presenting your lesson, you may wish to arrange through your resource person to observe a lesson involving the use of a film that is being presented by a vocational teacher in your service area who is experienced in using this technique.

In a simulated classroom situation, present your lesson to your resource person. Your resource person will serve two functions: (1) he/she will role-play a student to whom you are presenting the lesson, and (2) he/she will evaluate your performance.

Give your resource person the Presentation Checklist: Films, pp. 31–32, before making your presentation in order to ensure that he/she knows what to look for in your lesson.

NOTES

PRESENTATION CHECKLIST: FILMS

Directions: Place an X in the NO, PARTIAL, or FULL box to indicate that each of the following performance components was not accomplished, partially accomplished, or fully accomplished. If, because of special circumstances, a performance component was not applicable, or impossible to execute, place an X in the N/A box.

Name _____

Date _____

Resource Person _____

	LEVEL OF PERFORMANCE			
	N/A	No	Partial	Full
The teacher:				
1. arranged the physical setting in advance in a way that would ensure that all students could both see and hear the presentation clearly	☐	☐	☐	☐
2. had equipment and materials assembled in advance	☐	☐	☐	☐
3. set up the equipment and threaded the film according to manufacturer's recommendations	☐	☐	☐	☐
4. checked and focused the equipment in advance	☐	☐	☐	☐
5. had spare projection and exciter lamps available	☐	☐	☐	☐
6. projected the image on the screen clearly and accurately so that it met the following criteria:				
a. no keystoning effect	☐	☐	☐	☐
b. well focused	☐	☐	☐	☐
c. well centered on the screen	☐	☐	☐	☐
d. readable	☐	☐	☐	☐
7. used a film that met the following criteria:				
a. film aided in meeting the objectives of the lesson	☐	☐	☐	☐
b. content was interesting and motivating	☐	☐	☐	☐
c. content was at students' comprehension level	☐	☐	☐	☐
d. content fit the needs and interests of students	☐	☐	☐	☐
e. content was accurate and up to date	☐	☐	☐	☐
f. photography and sound were well produced	☐	☐	☐	☐
g. film was in good condition	☐	☐	☐	☐
8. prepared students adequately for the film (e.g., raised key questions, defined terms)	☐	☐	☐	☐
9. presented the film at a logical point in the lesson	☐	☐	☐	☐

	N/A	No	Partial	Full
10. ensured that someone stayed with the projector while it was running	☐	☐	☐	☐
11. summarized (or had class members summarize) the film content	☐	☐	☐	☐
12. obtained student feedback on students' understanding of the film	☐	☐	☐	☐
13. obtained student feedback on students' evaluation of the film . . .	☐	☐	☐	☐

Level of Performance: All items must receive FULL or N/A responses. If any item receives a NO or PARTIAL response, the teacher and resource person should meet to determine what additional activities the teacher needs to complete in order to reach competency in the weak area(s).

Learning Experience III

FINAL EXPERIENCE

In an **actual teaching situation,*** present information with films.

As you plan your lessons, decide when a film could be used effectively to aid you in meeting the lesson objectives. Based on that decision, present information with a film. This will include—

- selecting, modifying, or developing a lesson plan that includes the use of this technique
- selecting, obtaining, or preparing the necessary film
- securing the necessary equipment
- presenting the lesson to the class

NOTE: Your resource person may want you to submit your written lesson plan to him/her for evaluation before you present your lesson. It may be helpful for your resource person to use the TPAF from Module B–4, *Develop a Lesson Plan*, to guide his/her evaluation.

Arrange in advance to have your resource person observe your lesson presentation.

Your total competency will be assessed by your resource person, using the Teacher Performance Assessment Form, pp. 35–36.

Based upon the criteria specified in this assessment instrument, your resource person will determine whether you are competent in presenting information with films.

*For a definition of "actual teaching situation," see the inside back cover.

NOTES

TEACHER PERFORMANCE ASSESSMENT FORM

Present Information with Films (C–25)

Name _____

Date _____

Resource Person _____

Directions: Indicate the level of the teacher's accomplishment by placing an X in the appropriate box under the LEVEL OF PERFORMANCE heading. If, because of special circumstances, a performance component was not applicable, or impossible to execute, place an X in the N/A box.

	LEVEL OF PERFORMANCE					
The teacher:	N/A	None	Poor	Fair	Good	Excellent
1. arranged the physical setting in advance in a way that would ensure that all students could both see and hear the presentation clearly	☐	☐	☐	☐	☐	☐
2. had equipment and materials assembled in advance	☐	☐	☐	☐	☐	☐
3. set up the equipment and threaded the film according to manufacturer's recommendations	☐	☐	☐	☐	☐	☐
4. checked and focused the equipment in advance	☐	☐	☐	☐	☐	☐
5. had spare projection and exciter lamps available	☐	☐	☐	☐	☐	☐
6. projected the image on the screen clearly and accurately so that it met the following criteria:						
a. no keystoning effect	☐	☐	☐	☐	☐	☐
b. well focused	☐	☐	☐	☐	☐	☐
c. well centered on the screen	☐	☐	☐	☐	☐	☐
d. readable	☐	☐	☐	☐	☐	☐
7. used a film that met the folowing criteria:						
a. film aided in meeting the objectives of the lesson	☐	☐	☐	☐	☐	☐
b. content was interesting and motivating	☐	☐	☐	☐	☐	☐
c. content was at students' comprehension level	☐	☐	☐	☐	☐	☐
d. content fit the needs and interests of students	☐	☐	☐	☐	☐	☐
e. content was accurate and up to date	☐	☐	☐	☐	☐	☐
f. photography and sound were well produced	☐	☐	☐	☐	☐	☐
g. film was in good condition	☐	☐	☐	☐	☐	☐
8. prepared students adequately for the film (e.g., raised key quetions, defined terms)	☐	☐	☐	☐	☐	☐

	N/A	None	Poor	Fair	Good	Excellent
9. presented the film at a logical point in the lesson	☐	☐	☐	☐	☐	☐
10. ensured that someone stayed with the projector while it was running	☐	☐	☐	☐	☐	☐
11. summarized (or had class members summarize) the film content	☐	☐	☐	☐	☐	☐
12. obtained student feedback on students' understanding of the film	☐	☐	☐	☐	☐	☐
13. obtained student feedback on students' evaluation of the film	☐	☐	☐	☐	☐	☐

Level of Performance: All items must receive N/A, GOOD, or EXCELLENT responses. If any item receives a NONE, POOR, or FAIR response, the teacher and resource person should meet to determine what additional activities the teacher needs to complete in order to reach competency in the weak area(s).

ABOUT USING THE NATIONAL CENTER'S PBTE MODULES

Organization

Each module is designed to help you gain competency in a particular skill area considered important to teaching success. A module is made up of a series of learning experiences, some providing background information, some providing practice experiences, and others combining these two functions. Completing these experiences should **enable** you to achieve the **terminal** objective in the final learning experience. The final experience in each module always requires you to demonstrate the skill in an actual teaching situation when you are an intern, a student teacher, an inservice teacher, or occupational trainer.

Procedures

Modules are designed to allow you to individualize your teacher education program. You need to take only those modules covering skills that you do not already possess. Similarly, you need not complete any learning experience within a module if you already have the skill needed to complete it. Therefore, before taking any module, you should carefully review (1) the introduction, (2) the objectives listed on p. 4, (3) the overviews preceding each learning experience, and (4) the final experience. After comparing your present needs and competencies with the information you have read in these sections, you should be ready to make one of the following decisions:

- That you do not have the competencies indicated and should complete the entire module
- That you are competent in one or more of the enabling objectives leading to the final learning experience and, thus, can omit those learning experiences
- That you are already competent in this area and are ready to complete the final learning experience in order to "test out"
- That the module is inappropriate to your needs at this time

When you are ready to complete the final learning experience **and** have access to an actual teaching situation, make the necessary arrangements with your resource person. If you do not complete the final experience successfully, meet with your resource person and arrange to (1) repeat the experience or (2) complete (or review) previous sections of the module or other related activities suggested by your resource person before attempting to repeat the final experience.

Options for recycling are also available in each of the learning experiences preceding the final experience. Any time you do not meet the minimum level of performance required to meet an objective, you and your resource person may meet to select activities to help you reach competency. This could involve (1) completing parts of the module previously skipped, (2) repeating activities, (3) reading supplementary resources or completing additional activities suggested by the resource person, (4) designing your own learning experience, or (5) completing some other activity suggested by you or your resource person.

Terminology

Actual Teaching Situation: A situation in which you are actually working with and responsible for teaching secondary or postsecondary vocational students or other occupational trainees. An intern, a student teacher, an inservice teacher, or other occupational trainer would be functioning in an actual teaching situation. If you do **not** have access to an actual teaching situation when you are taking the module, you can complete the module **up to** the final learning experience. You would then complete the final learning experience later (i.e., when you have access to an actual teaching situation).

Alternate Activity or Feedback: An item that may **substitute** for required items that, due to special circumstances, you are unable to complete.

Occupational Specialty: A specific area of preparation within a vocational service area (e.g., the service area Trade and Industrial Education includes occupational specialties such as automobile mechanics, welding, and electricity.

Optional Activity or Feedback: An item that is not required but that is designed to **supplement** and enrich the required items in a learning experience.

Resource Person: The person in charge of your educational program (e.g., the professor, instructor, administrator, instructional supervisor, cooperating/supervising/classroom teacher, or training supervisor who is guiding you in completing this module).

Student: The person who is receiving occupational instruction in a secondary, postsecondary, or other training program.

Vocational Service Area: A major vocational field: agricultural education, business and office education, marketing and distributive education, health occupations education, home economics education, industrial arts education, technical education, or trade and industrial education.

You or the Teacher/Instructor: The person who is completing the module.

Levels of Performance for Final Assessment

N/A: The criterion was not met because it was **not applicable** to the situation.

None: No attempt was made to meet the criterion, although it was relevant.

Poor: The teacher is unable to perform this skill or has only **very limited ability** to perform it.

Fair: The teacher is unable to perform this skill in an acceptable manner but has **some ability** to perform it.

Good: The teacher is able to perform this skill in an **effective** manner.

Excellent: The teacher is able to perform this skill in a **very effective** manner.

Titles of the National Center's Performance-Based Teacher Education Modules

Category A: Program Planning, Development, and Evaluation

- A-1 Prepare for a Community Survey
- A-2 Conduct a Community Survey
- A-3 Report the Findings of a Community Survey
- A-4 Organize an Occupational Advisory Committee
- A-5 Maintain an Occupational Advisory Committee
- A-6 Develop Program Goals and Objectives
- A-7 Conduct an Occupational Analysis
- A-8 Develop a Course of Study
- A-9 Develop Long-Range Program Plans
- A-10 Conduct a Student Follow-Up Study
- A-11 Evaluate Your Vocational Program

Category B: Instructional Planning

- B-1 Determine Needs and Interests of Students
- B-2 Develop Student Performance Objectives
- B-3 Develop a Unit of Instruction
- B-4 Develop a Lesson Plan
- B-5 Select Student Instructional Materials
- B-6 Prepare Teacher-Made Instructional Materials

Category C: Instructional Execution

- C-1 Direct Field Trips
- C-2 Conduct Group Discussions, Panel Discussions, and Symposiums
- C-3 Employ Brainstorming, Buzz Group, and Question Box Techniques
- C-4 Direct Students in Instructing Other Students
- C-5 Employ Simulation Techniques
- C-6 Guide Student Study
- C-7 Direct Student Laboratory Experience
- C-8 Direct Students in Applying Problem-Solving Techniques
- C-9 Employ the Project Method
- C-10 Introduce a Lesson
- C-11 Summarize a Lesson
- C-12 Employ Oral Questioning Techniques
- C-13 Employ Reinforcement Techniques
- C-14 Provide Instruction for Slower and More Capable Learners
- C-15 Present an Illustrated Talk
- C-16 Demonstrate a Manipulative Skill
- C-17 Demonstrate a Concept or Principle
- C-18 Individualize Instruction
- C-19 Employ the Team Teaching Approach
- C-20 Use Subject Matter Experts to Present Information
- C-21 Prepare Bulletin Boards and Exhibits
- C-22 Present Information with Models, Real Objects, and Flannel Boards
- C-23 Present Information with Overhead and Opaque Materials
- C-24 Present Information with Filmstrips and Slides
- C-25 Present Information with Films
- C-26 Present Information with Audio Recordings
- C-27 Present Information with Televised and Videotaped Materials
- C-28 Employ Programmed Instruction
- C-29 Present Information with the Chalkboard and Flip Chart
- C-30 Provide for Students' Learning Styles

Category D: Instructional Evaluation

- D-1 Establish Student Performance Criteria
- D-2 Assess Student Performance: Knowledge
- D-3 Assess Student Performance: Attitudes
- D-4 Assess Student Performance: Skills
- D-5 Determine Student Grades
- D-6 Evaluate Your Instructional Effectiveness

Category E: Instructional Management

- E-1 Project Instructional Resource Needs
- E-2 Manage Your Budgeting and Reporting Responsibilities
- E-3 Arrange for Improvement of Your Vocational Facilities
- E-4 Maintain a Filing System
- E-5 Provide for Student Safety
- E-6 Provide for the First Aid Needs of Students
- E-7 Assist Students in Developing Self-Discipline
- E-8 Organize the Vocational Laboratory
- E-9 Manage the Vocational Laboratory
- E-10 Combat Problems of Student Chemical Use

Category F: Guidance

- F-1 Gather Student Data Using Formal Data-Collection Techniques
- F-2 Gather Student Data Through Personal Contacts
- F-3 Use Conferences to Help Meet Student Needs
- F-4 Provide Information on Educational and Career Opportunities
- F-5 Assist Students in Applying for Employment or Further Education

Category G: School-Community Relations

- G-1 Develop a School-Community Relations Plan for Your Vocational Program
- G-2 Give Presentations to Promote Your Vocational Program
- G-3 Develop Brochures to Promote Your Vocational Program
- G-4 Prepare Displays to Promote Your Vocational Program
- G-5 Prepare News Releases and Articles Concerning Your Vocational Program
- G-6 Arrange for Television and Radio Presentations Concerning Your Vocational Program
- G-7 Conduct an Open House
- G-8 Work with Members of the Community
- G-9 Work with State and Local Educators
- G-10 Obtain Feedback about Your Vocational Program

Category H: Vocational Student Organization

- H-1 Develop a Personal Philosophy Concerning Vocational Student Organizations
- H-2 Establish a Vocational Student Organization
- H-3 Prepare Vocational Student Organization Members for Leadership Roles
- H-4 Assist Vocational Student Organization Members in Developing and Financing a Yearly Program of Activities
- H-5 Supervise Activities of the Vocational Student Organization
- H-6 Guide Participation in Vocational Student Organization Contests

Category I: Professional Role and Development

- I-1 Keep Up to Date Professionally
- I-2 Serve Your Teaching Profession
- I-3 Develop an Active Personal Philosophy of Education
- I-4 Serve the School and Community
- I-5 Obtain a Suitable Teaching Position
- I-6 Provide Laboratory Experiences for Prospective Teachers
- I-7 Plan the Student Teaching Experience
- I-8 Supervise Student Teachers

Category J: Coordination of Cooperative Education

- J-1 Establish Guidelines for Your Cooperative Vocational Program
- J-2 Manage the Attendance, Transfers, and Terminations of Co-Op Students
- J-3 Enroll Students in Your Co-Op Program
- J-4 Secure Training Stations for Your Co-Op Program
- J-5 Place Co-Op Students on the Job
- J-6 Develop the Training Ability of On-the-Job Instructors
- J-7 Coordinate On-the-Job Instruction
- J-8 Evaluate Co-Op Students' On-the-Job Performance
- J-9 Prepare for Students' Related Instruction
- J-10 Supervise an Employer-Employee Appreciation Event

Category K: Implementing Competency-Based Education (CBE)

- K-1 Prepare Yourself for CBE
- K-2 Organize the Content for a CBE Program
- K-3 Organize Your Class and Lab to Install CBE
- K-4 Provide Instructional Materials for CBE
- K-5 Manage the Daily Routines of Your CBE Program
- K-6 Guide Your Students Through the CBE Program

Category L: Serving Students with Special/Exceptional Needs

- L-1 Prepare Yourself to Serve Exceptional Students
- L-2 Identify and Diagnose Exceptional Students
- L-3 Plan Instruction for Exceptional Students
- L-4 Provide Appropriate Instructional Materials for Exceptional Students
- L-5 Modify the Learning Environment for Exceptional Students
- L-6 Promote Peer Acceptance of Exceptional Students
- L-7 Use Instructional Techniques to Meet the Needs of Exceptional Students
- L-8 Improve Your Communication Skills
- L-9 Assess the Progress of Exceptional Students
- L-10 Counsel Exceptional Students with Personal-Social Problems
- L-11 Assist Exceptional Students in Developing Career Planning Skills
- L-12 Prepare Exceptional Students for Employability
- L-13 Promote Your Vocational Program with Exceptional Students

Category M: Assisting Students in Improving Their Basic Skills

- M-1 Assist Students in Achieving Basic Reading Skills
- M-2 Assist Students in Developing Technical Reading Skills
- M-3 Assist Students in Improving Their Writing Skills
- M-4 Assist Students in Improving Their Oral Communication Skills
- M-5 Assist Students in Improving Their Math Skills
- M-6 Assist Students in Improving Their Survival Skills

RELATED PUBLICATIONS

Student Guide to Using Performance-Based Teacher Education Materials
Resource Person Guide to Using Performance-Based Teacher Education Materials
Guide to the Implementation of Performance-Based Teacher Education
Performance-Based Teacher Education: The State of the Art, General Education and Vocational Education

For information regarding availability and prices of these materials contact—AAVIM, American Association for Vocational Instructional Materials, 120 Driftmier Engineering Center, University of Georgia, Athens, Georgia 30602, (404) 542-2586

BEST COPY AVAILABLE

ISBN 0-89606-202-3